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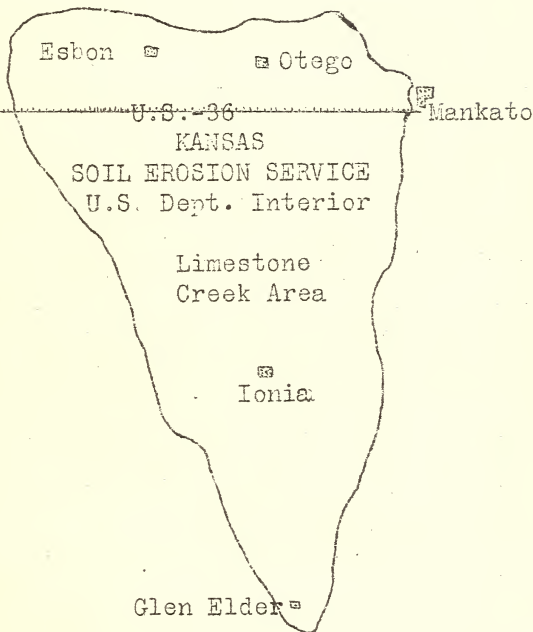
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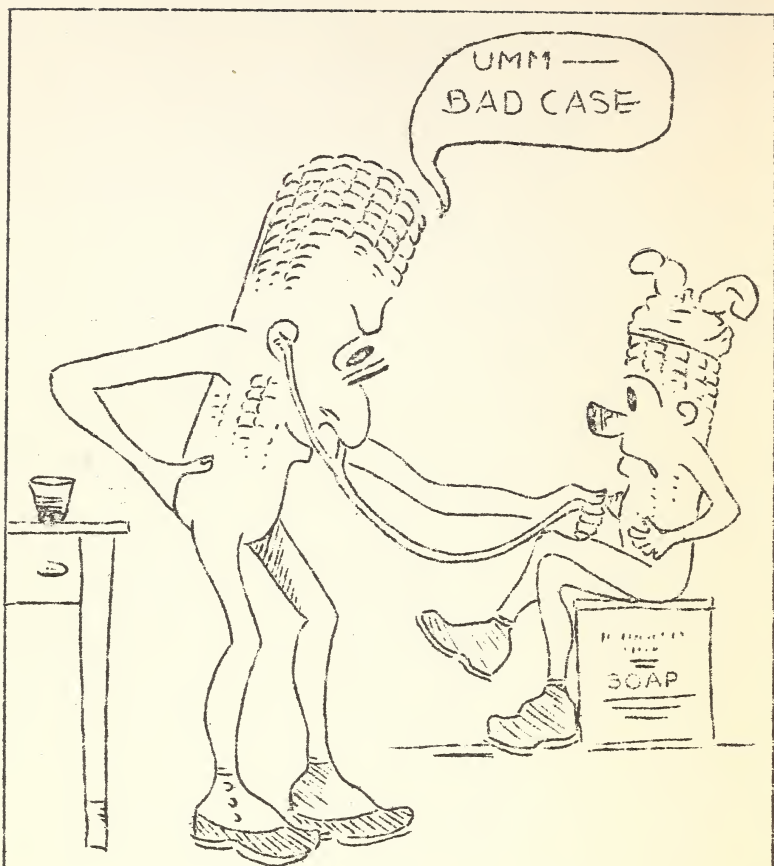
★ AUG 20 1935 ★

U. S. Department of Agriculture

TIMELY TOPICS
ON
SOIL EROSION



Mankato, Kansas
October 11, 1934



AILMENT: Chronic case of under nourishment.

REMEDY: Planting on contour, use of recommended varieties and proper rotation.

" FINK "

"TIMELY TOPICS"

This news bulletin will be published once each month by the staff members of the Soil Erosion Service. Its purpose is to keep the Cooperator in closer touch with the organization and to provide timely information on subjects relating to soil erosion. We are anxious to make this bulletin interesting as well as educational and will be glad for any helpful suggestions.

READJUST FARM PLANS

Many Cooperators have found it necessary to make changes in their farm plan as a result of the extreme drouth. Others are finding changes necessary in the shape and size of their fields following terracing. With others the economic situation is forcing changes because of seed requirements, and finally the Agricultural Adjustment Administration program is causing some unanticipated changes in the farm plan.

The Agronomists on the force are preparing to call on each Cooperator and help adjust the farm plan to meet particular situations in each case. In so far as possible the same Agronomists will call who worked out the original plan.

CONTOUR FARMING

Contour planting of crops has become the prevailing fashion of the Cooperators in the Limestone Area. The Agronomists have just completed a check of the fall wheat planting. This survey showed that 75% of the wheat, that is being planted on terraced land this fall, will be planted parallel to the terraces.

Special stress is being given to this method of Soil Erosion Control in this Area, because in the past all crops have been planted with the fence lines.

This fall the Soil Erosion Service desires all of its cooperators to blank list on the contour, all land not in crops. There is great danger of wind erosion this winter as all of the land is bare of vegetation. Blank listing will tend to prevent wind erosion, hold snow and conserve moisture from rains, and if properly handled in the spring will make for better crops and more economical cultivation.

SOIL TYPES

The soils in this Area are composed principally of three soil types. About 65% of the Area consists of loessial (wind deposited) soil, 28% of residual soils or soils formed from limestone and shale and about 7% bottom land.

Colby silt loam is the chief loessial soil. It is the principal upland soil in this area and occupies the higher smooth land between the drainage ways. Where slopes are not excessive this soil type is nearly all under cultivation, and good crop yields are obtained. Much of this soil along the drainage ways and on hillsides is badly eroded and the subsoil is exposed. The Colby soils are all high in lime. Lime nodules (concretions) are often found on the surface where erosion has been severe.

Benton stony loam predominates in the residual soils and is found on the steeper slopes and along drains in the northern part of the Area. In the central and southern parts this soil is extensive on the divides and on nearly all the steep slopes. Only a small portion of this soil type is under cultivation as it is usually quite shallow and excessive rocks are soon exposed.

In the bottom land, Lincoln silt loam is most extensive and is nearly all under cultivation. This soil is very productive and requires little or no attention so far as controlling erosion is concerned.

WATER CONSERVATION

The conservation of rainfall water is one of the

most important phases of the Soil Erosion program. In the conservation of rainfall we must first decide where we want the water conserved. If we want to use the water for the crop production, we must, of course, conserve the moisture in the soil. This can be done most effectively by forcing the soil to take up the water as near where it falls as possible. This is one of the big advantages of planting rows on the contour. Each row holds a small amount of water and causes it to go into the ground over the entire surface. That is, if we keep the water spread out, the soil has capacity to absorb large amounts of it. The reason thick growing crops like small grain or grass causes soil to absorb much water is because the water is kept from collecting in one place and is held on the surface for sufficient time to be absorbed.

If we want to conserve water in ponds or above dams for stock use or recreational purposes, we must then permit sufficient run-off from the surface of the soil to fill these reservoirs. The water collected in this way may serve a very valuable purpose, but it represents water that has been lost from the soil on the hillsides above. It might have been put into the ground, but in some cases we prefer to have at least a limited amount of it in ponds. We should, therefore, decide how much is needed for stock water and build ponds sufficiently large and deep to store this water. Sufficient drainage area must be provided to keep the pond supplied with water.

PONDS

The Soil Erosion Service is cooperating with farmers in the construction of farm ponds. The past season has demonstrated the fact that we are seriously in need of additional ponds in this region to furnish stock water during dry periods. Most of the ponds were dry this year because their capacity is too small to enable them to hold water through long dry periods. One of the principal reasons for this

is the fact that the ponds are too shallow. There would evaporate from the surface of a pond about 5 feet of water in one year's time. Therefore, if the pond is shallow, a large proportion of the water may be lost by evaporation when there are not sufficient rains to keep a shallow pond replenished. If the pond is deeper the proportion lost by evaporation is greatly reduced.

Special attention will be given in the construction of ponds to provide sufficient drainage area to fill the pond and also to protect the drainage area in such a way that the pond will not quickly fill with sediment. Our Agronomists will discuss the Cooperative Pond Construction plan in detail with the Cooperators on their next visit.

BRUSH DAMS

Since August 1, approximately 500 brush dams have been built in gullies of the Limestone Area. The purpose of these dams is to check further enlarging of these gullies and to promote a fill of silt and a growth of grass or other vegetation. Over a period of years, the brush dams will disintegrate, and the vegetation including grass, shrubs or trees, will have to be relied upon to prevent a recurrence of cutting that exists at the time the dam is built.

These dams are very simply constructed, being made entirely of posts, brush and straw found on nearly every farm, and a small amount of wire.

In gullies of fifteen feet width or less, one row of posts is placed across the gully, at right angle to the direction of flow. In larger gullies it is necessary to place two rows of posts about three feet apart, to hold the additional volume of water.

Straw and brush is placed between the posts in order to slow up the flow of water and allow the silt carried to be deposited in the gully above the dam.

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